planning for innovative housing

Innovative Residential Development Under The Planning Act

a review of REDA and IRDA projects, 1970-1978

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INTRODUCTION

During the decade 1970-79, thirty-five housing developments were built in the larger centres of Alberta, under those sections of the Planning Act designed to encourage "innovative, low cost" housing, through simplifying or eliminating of various procedures of planning and development review. These projects brought onto the market some 2,800 units of housing, affecting approximately 8,500 people. This was accomplished through waiving over one hundred sections of the Planning Act, Subdivision and Transfer Regulations, and municipal by-laws or codes.

PURPOSE OF REPORT

This report presents a detailed review of the land use planning and design features of each of the thirty-five projects, examining what benefits resulted from designation under the legislation, and what problems, if any, may have occurred. Consideration is given to whether the benefits received justified the setting-aside of those Provincial and local procedures designed to protect the quality of the community environment.

The perspective is that of the urban planner and subdivision designer, with attention focussed on the quality of the neighborhood layout and design, and the relationship of those elements to the broader land use planning and legal issues.

1.

HISTORICAL BACKGROUND

Intention of Legislation

The residential experimental development areas legislation (REDA) was passed in an amendment to the Planning Act in 1970 (Section 155). It was a response to the Federal Government announcement that year of the allocation of $200 million to encourage the development of low income housing to accommodate families with an annual income of $5,000 or less. The purpose of the legislation was, upon an application approved by a council, to provide for experimental kinds of lower cost residential developments. The Minister of Municipal Affairs could waive or authorize a person to waive any requirements of a land use bylaw or subdivision regulation which would otherwise prevent approval being given to the project. In the new Planning Act, 1980, Section 149 incorporates this legislation under the title of "Innovative Residential Development Area" (IRDA). Section 149 of the Planning Act 1980 is a renumbering of Section 143 of the Planning Act, 1977 under the same title.

The intent of this legislation is to reduce the cost of a unit of housing to the consumer. The unit must cost less than its conventional counterpart: design innovations in such areas as municipal engineering (reduced right-of-way and payment widths for roads, storm drainage collection, utility placement and collection, etc.), the allowable density, the allowable form of housing, set-back requirements, and other such subjects of municipal regulations, are primarily for this purpose. It must also be shown that these savings will be passed on to the housing consumer.

Project Funding and Approval

Central Mortgage and Housing Corporation (CHMC) accepted proposals from developers at the preferred interest rate of 7⅞%. The Alberta Government also subsidized interest on programs under this scheme by 2%. Therefore, approved projects could obtain financing at 5⅞% for provision of housing for the above income level.

At first, a tri-governmental committee was set up in both Edmonton and Calgary to screen proposals and to streamline the process associated with applications (1970). Representatives from CMHC, Alberta Housing Corporation (AHC), and the City formed the committees.

As provincial funding began to replace federal funding for these projects, the city councils became the approval authorities. In 1975 Edmonton City Council designated the Municipal Planning Council with approval authority for all REDA projects. Federal funding for the program was discontinued in 1976-77.

Section 149 Planning Act (1980)

Innovative Residential Development Area

Innovative Residential Development Area

149 (1) For the purpose of encouraging the development of lower cost housing on an innovative basis, a council may apply to the Minister for an order designating any area or areas of land within the municipality to be an Innovative Residential Development Area.

(2) The Minister on the receipt of the application may by order designate any area or areas of land in the municipality as an Innovative Residential Development Area, with or without conditions.

(3) Within an Innovative Residential Development Area a council may, notwithstanding anything in this Act or the regulations, approve a project for innovative kinds of lower cost residential development whether or not the project is in conformity with any land use by-law.

(4) Notwithstanding anything in this Act or the regulations, approval of a plan of subdivision within an Innovative Residential Development Area may be given by the Minister.

(5) In order to enable lower cost residential development within an Innovative Residential Development Area to be initiated and carried to completion with economy and dispatch, the Minister

(a) may waive or authorize any person to waive, in whole or in part, any requirement, condition or procedure of this Act or the regulations or any land use by-law, and

(b) may take or authorize or direct the taking of any other action or procedure, as he considers desirable in the public interest.

(1977 c. 89 s. 143)

Section 143 Planning Act (1977)

Innovative Residential Development Area

Innovative Residential Development Area

143 (1) For the purpose of encouraging the development of lower cost housing on an innovative basis, a council may apply to the Minister for an order designating any area or areas of land within the municipality to be an Innovative Residential Development Area.

(2) The Minister upon the receipt of the application may by order designate any area or areas of land in the municipality as an Innovative Residential Development Area, with or without conditions.

(3) Within an Innovative Residential Development Area a council may, notwithstanding any provision of this Act or the regulations, approve a project for innovative kinds of lower cost residential development whether or not the project is in conformity with any land use by-law.

(4) Notwithstanding any provision of this Act or the regulations, approval of a plan of subdivision within an Innovative Residential Development Area may be given by the Minister.

(5) In order to enable lower cost residential development within an Innovative Residential Development Area to be initiated and carried to completion with economy and dispatch, the Minister

(a) may waive or authorize any person to waive, in whole or in part, any requirement, condition or procedure of this Act or the regulations or any land use by-law, and

(b) may take or authorize or direct the taking of any other action or procedure, as he considers desirable in the public interest.

(1977 c. 89 s. 143)

Section 155 Planning Act (1970)

Residential Experimental Development Area

155 (1) Where the Government of Canada, or any agent thereof, is providing financing, in whole or in part, for the purpose of encouraging the development of low cost housing on an experimental basis, a municipality may apply to the Minister for an order designating any area or areas of land within the boundaries of the municipality to be a Residential Experimental Development Area

(2) The Minister upon the receipt of the application may make an order to be known as a Residential Experimental Development Area Order.

(3) Within a Residential Experimental Development Area the council of a municipality may, notwithstanding the provisions of this or any other Act, approve a project for experimental kinds of low cost residential development whether or not the project is in conformity with any by-law or regulation of the municipality.

(4) Notwithstanding the provisions of this or any other Act or regulation, approval of a plan of subdivision within a Residential Experimental Development Area may be given by the Minister.

(5) In order to enable low cost residential development within a Residential Experimental Development Area to be initiated and carried to completion with economy and dispatch the Minister.

(a) may waive or authorize the waiving, in whole or in part, of any requirement or condition or procedure of this Act, or any regulations thereunder, or any by-law or regulation of the municipality,

(b) may take or authorize or direct the taking of any other actions or procedures,

as he considers desirable in the public interest.

[1970, c. 89, s. 19]

AMENDMENT

"155. (1) For the purpose of encouraging the development of low cost housing on an experimental basis, a municipality may apply to the Minister for an order designating any area or areas of land within the boundaries of the municipality to be a Residential Experimental Development Area.

2.

RESPONSE TO LEGISLATION

During 1971 to 1979 Ministerial Orders for 16 REDA's were signed, resulting in 23 developments, 18 of which were built in Calgary and Edmonton. There were no applications from 1972 to 1975. From 1975 to 1978 only 9 projects were developed in the centres of Edmonton, Lethbridge, Taber and High River. Three projects were designated in 1978 under the IRDA legislation in Section 143 of the 1977 Planning Act. There have been no subsequent applications. Tables 1, 2 and 3 list projects.

Application Criteria

The first projects built were subject to few application requirements. In the *Review of Experimental Housing Projects*, (1976) a report written for the Calgary Board of Commissioners, the authors state:

> In general, there were no set standards for the innovative housing projects. Each developer or builder was encouraged to come forward with his own proposals. Economies were achieved by reducing lot sizes, streets widths and land development standards while the buildings or housing units were built to minimal sizes in some cases. The experimental housing program in Calgary relied on housing design which most readily complied with building code regulations. Waivers were almost entirely confined to subdivision and servicing standards. In other words, experimentation has been in the area of land development rather than with building forms or innovative spacial layouts.
>
> Innovation within these communities under study include increased density, relaxed yard requirements, dished roadways, reduced road rights-of-way, on-site parking accommodation and removal of curb and gutters and sidewalks. The introduction of attached housing was also an innovative concept with respect to home ownership in Calgary at that point in time.

Both Calgary and Edmonton had developed application requirements for REDA proposals by 1976. Calgary's guidelines emanate from recommendations in the above review, and relate to technical and design considerations. The City of Edmonton published *Procedures and Criteria for Reviewing Housing Proposals* (1975) which delineates application requirements.

Ministerial Waivers

Ministerial waivers granted cover those areas of legislation dealing with development control. The two major divisions of development control that the waivers are associated with, and that are covered in the following analysis, are the approval process and the subdivision design.

TABLE 1

CALGARY PROJECTS

PROJECT	LOCATION	LEGAL DESC'N.	TYPE	UNIT #	DEVELOPER	AREA/ AC.	DENSITY UNIT/AC	PRICE/ UNIT	WAIVERS
1. West Dover 219/263/70	36 St./34 Ave. S.E.	Blk. 10, Plan 383 A.C. S.E. 1/4 9.24.29.4	S.F.D. Duplex	260	City	42	6/ac	15,400 19,300	S & TR Sec. 24(1), 35(d), Dev't. Control Bylaw 7839 Sec. 12. Rules Sec. 39, Appx. 3 & 7 City Bldg. Code-Ceiling finish
2. Dover Meadow 219/223/70	Dovervale Cr. 30 Ave. S.E.	E550' Blk. Z, plus 550' N-S, all of Blk. Y, Plan 635 A.D.	Semi (4-plex)	136	NuWest	6.73	20/ac	11,725 13,475	S & TR Sec. 24(1), 35(d), Dev't. Control Bylaw 7839 Sec. 12 Rules Sec. 39, Appx. 3 & 7 City Bldg. Code Ceiling finish
3. Bowness 219/233/70	8544 48 Ave. N.W.	Lots 1,2 Blk. 38, Plan 5565 A.H. Sec. 3 NW	Row	37		1.6	21/ac		Dev't. Control Bylaw 7839, Sec. 12. Rules: Appdx. 3.
4. Penbrooke Meadows 219/234/70	52 St. & 8 Ave. S E.	Lots 1-12, Blk. 12 Plan 6760 J.K., Lots 33-44 Blk. 11 Plan 7315 J.K.	Row	83	Qualico	5.75	14.4/ac	12,500 12,700	S & TR Sec. 24(1), 35(d) Dev't. Control Bylaw 7839 Sec. 12. Rules Appdx. 7
5. Ogden Multiplex 219/235/70	24 St./ 76 Ave.	Lots 9-39, Blk. 10, Plan 375 A.M., lots 25, 26 Blk. 11, Plan 375 A.M. S1/2 Lot 8, 9-22 Blk. 28 Plan 955 A.V.	Semi	68		3.1	21.9/ac	13,000 13,900	S & TR Sec. 24(1), 35(d) Dev't. Control Bylaw 7839 Sec. 12. Rules Sec. 39 & Appx. 3 & 7.
6. Richmond Rd. 227/451/70	45 St. S.W.	Blks. 99-100, Plan 6795 A.C. Lot 17 Blk. 1, Plan 867 J.K.	Row	167	B & H Homes Ltd.		19.9/ac	Rental	Dev't. Control Bylaw 7839 Sec. 12 City Bldg. Code: fire separation
7. Ogden Tempo. 164/179/71	78 Ave./ 19 St. S.E.	Blks. C-D, Plan 955 A.V. S.E. 1/4 25.23.1.W.5	S.F.D.	283	B.A.C.M.	47.75	5.9/ac	18,000 20,000	Plan Act 70 Sec. 19(2a) S & Tr Sec. 24(1), 35(b) L.U. Classification Guide: Sec. 10, Appx. 3, Rules: Appx. 3.
8. Forest Lawn 198/239/71	7th Ave. 44 St. S.E.	Blks. 28-32, Plan 406 A.B. Blk. 27, Plan 2820 A.M.	Row 172 Semi 22 S.F.D.18	234	NuWest	27.4	8.5/ac	15,000 16,000	Plan Act 70 Sec. 19(2a) S & TR Sec. 24(1), 35(b,c).

Note: 1. Ministerial Orders are listed under Project name
2. S & TR refers to Subdivision and Transfer Regulation 215/67 as amended.
3. Rules refers to Calgary's Rules Respecting the Use of Land.

TABLE 2

EDMONTON PROJECTS

PROJECT	LOCATION	LEGAL DESCRIPTION	TYPE	UNIT #	DEVELOPER	AREA/ AC.	DENSITY UNIT/AC	PRICE UNIT	WAIVERS
1. Londonderry 124/241/70	82 St./144 Ave.	Blk. 14, Plan 5088 N.Y.	Row Cluster	296	Embassy	12	25/ac	13,000 13,500	Plan Act 70 Sec. 128 (1) Zone Bylaw 2135, Sec. B
2. Dickensfield 170/70	88A St./144 Ave.	N.278' lot 2, Blk. 8 Plan 6689 N.Y.	Row Cluster	77	NuWest	4.49	17.1/ac		
3. Abbottsfield 224/70	34 St. CNR & Hwy. 16 (118 Ave.)	Blk. 1-8, Plan 4073 E.T. & 6338 K.S., part of S.W. 1/4 18.52.23.W4	Row	72	Alldritt		17.7/ac	Rental	Plan Act 70 Sec. 128(1) Zone Bylaw 2135 Sec. 8, 23
4. Thorncliff 224/70	175 St./79 Ave.	Parcel A, Blk 13 & Parcel 46 Blk., 5 Plan 3782 R.C.	Row	156	Alldritt	8.72	17.9/ac	Rental	Same as above
5. Calder 265/344/70	12741 - 115 St.	Lot 19 except E2.9' Blk. B Plan 2923 R	Row (infill)	4	Sabra	.164	24/ac		Plan Act 70 Sec. 128(1) Zone Bylaw 2135 Sec. 12(2), 13(5), 21-A (1&3)
6. Calder 265/70 433/436/70	12716 - 115 St.	Lots 16-17, Blk. 6, Plan 2052 A.E. Lot 18 Blk. 6 Plan 1431 K.S.	Row (infill)	8 total	Sabra	.321	24.9/ac		Same as above
7. Montrose 265/344/70	11949 - 62 St.	Lot 17 & N1/2 Lot 18 Blk 12, Plan 823 A.1	Row (infill)	3	Sabra	.148	20/ac		Same as above
8. Calder 433/436/70	12929 - 117 St.	Lot 17 Blk. 5, Plan LX1	Row (infill)	3	Sabra	.157	19/ac		Same as above
9. Prince Charles 433/436/70	12132 - 122 St.	Lot 7, Blk. 23, Plan LXIV	Row (infill)	4	Sabra	.162	24.7/ac		Same as above
10. Richfield 433/444/75	Millwoods Rd. 85 St.	Lot 5, Blk. 15, Plan 453 R.S.	S.F.D.	49	NuWest	4.89		41,000 to 42,000	S&TR Sec. 24(1), Sec. 35 Zone Bylaw 2135 Sec. 12(1), (7), (9), (10), (13) Sec. 21(2)
11. Ottewell Place 368/369/76	58 St./92 Ave.	Lots A & 7, Blk. 42, Lots A, 44, Blk. 44, Plan 2862 M.C.	S.F.D. Row	157	NuWest/ Cairns	17.95	8.7/ac		S&TR Sec. 35(2) Zone Bylaw 2135, Sec. 12(1), (7), (9), (10), (13), (18), Sec. 21(2)
12. Lymburn 339/340/77	178 St./76 Ave. W. Jasper Place	Lots A&B Blk., 24, Lot A-E Blk. 27, Lot A, Blk. 23, Lots A-D, Blk. 20, Lot E-H, Blk. 22	S.F.D.	176	Lamb Holdings	18.4	9.5/ac	68,550 94,800	S&TR Sec. 25, 29(2) 34, 35 (1a&c), (2a), (4b) Zone Bylaw 2135, Sec. 12 (1), (7), (9), (10), (13)
13. Baturyn 493/494/77	100 St./172 Ave. Castle Downs	Part of S1/2.5.54.24.W4	S.F.D. Row	253	B.A.C.M.	32.88	7.69/ac		S&TR Sec. 16(1), 25, 29 (2), 32, 34, 35 (1a&c) (2a) (4b) Zone Bylaw 2135 Sec. 12 (13a), 21(2a-g)
14. Blue Quill 1065/1066/78	119 St./25 Ave. Kaskitayo	Lot 1, Blk. 28 Plan 7770069	S.F.D.	64	Carma	8.2	7.8/ac	100,000 to 189,000	Zone Bylaw 2135, Sec. 16 B

TABLE 3

PROJECTS IN OTHER AREAS

PROJECT	LOCATION	LEGAL DESC'N.	TYPE	UNIT #	DEVELOPER	AREA/ AC.	DENSITY UNIT/AC	PRICE/ UNIT	WAIVERS
1. Lethbridge 382/385/70	Forestry Ave. Ash Grove Rd.	Blk. B. Plan 7006 J.K. N 1/2 28.8.21.W4	Semi	40	Fransden	2.27	17.6/ac		S & TR Sec. 35(d), Zone Bylaw 2750 Sec. 2(b) 6(5-8)
2. Lethbridge 519/71		Lots 5-8 Blk. 3, Lots 1-4 Blk. 1, Lots 1-4, Blk. 4, Lots 23 & 30, Blk. 3, Plan 7890 J.K.	Semi		NuMode Homes				Zone Bylaw 2750 Sch. 2
3. Lethbridge 157/158/77	St. Edward Blvd. Stafford Dr.	Part of Blk. B. Plan 7217 J.K. part of Plan 3591 S part of NW 1/4 7.9.21.4M	S.F.D. Semi		NuMode Homes			42,000 to 46,000	S & TR Sec. 16, (1 & 2) 24(1 & 2, 3), 35(1-4) Zone Bylaw 2750 Sec. 8(2b) Sch. 2, (2, 3, 5).
4. Lethbridge 2007/2008/ 78	Columbia Blvd.	Lot 12, Blk. 28, Plan 7710882	S.F.D. (4) Plex Semi	89	Lark Haven Homes Ltd.	9.35	9.5/ac		SR(132/78) Sec. 16 Dev't. Control Bylaw 2887. Resolution 3, Appdx. A. Resolution 23
5. Medicine Hat 270/295/71		Lots 1-26, Blk. 4, Plan 7738 J.K. Lots 13-18 Blk. 1 and Lots 31-56 Blk. 2 Plan 6641 J.K.	Duplex		1) Wahl 2) Century Homes		13.94/ac		S & TR Sec. 7-12, 35, Dev't. Control Bylaw 1539 Sec. 10-13, Dev't. Control Resolution #6.
6. Redcliff 275/71		Lots 1-16 Blk. 1, Plan 7316 J.K.	Duplex	12			13.6/ac		—
7. Drumheller 292/71		Remainder of Lots 27 & 28 Blk. 1, Plan 5324 J.K. Lots 8-14 Blk. 1, Plan 5324 J.K.	Duplex	26	NuWest	2.08	12.5/ac		S & TR Sec. 35
8. Taber 480/481/75	58 Ave. 48 St.	N 1/2 Lot 3, Lots 4-7 Blk. 38, Plan 4348 R	Row	6	Holger Just.		17.8/ac	Rental	Zone Bylaw A-15 Sch. 1 Sec. 2-5 (Zone R).
9. High River 940/941/78	2 St. S.E. Central Ave. S.E.	Part of N.E. 1/4 6.19.28.4	Mobile Homes	26		3.00	8.7/ac	29,860	Dev't. Control Bylaw 983. Resolution 21 Sec. 2.12.2. Sec. 4

A. The Approval Process

Subdivision Approval

By by-passing the prescribed routes of subdivision approval and those authorities vested with the responsibility, a more rapid project start-up was possible. Section 19 of The Planning Act, 1970, which deals with this, was waived for the Calgary projects of Odgen Tempo Village and Forest Lawn, and for the Lethbridge projects. Lethbridge Zoning Bylaw 2750 Section 8, was also waived for the latter (M.O. 385/70). Sections 7-12 of the Subdivision and Transfer Regulation 215/67, regarding Decision, Appeals, and Endorsement of Subdivision Applications was waived for M.O. 295/71 in Medicine Hat.

Development Approval

Calgary has adopted development control to implement their land use plans. This option was intended to provide for greater flexibility than is possible under conventional zoning, e.g. the practice adopted by Edmonton and Lethbridge. In addition to the implementation of a Development Control Bylaw, Calgary also adopted Rules Respecting the Use of Land (containing detailed guidelines similar to a zoning bylaw) and a Land Use Classification Guide (permitted uses by district).

In respect to the Development Bylaw no waivers were required related to details of the proposed developments, but a standard relaxation from the need to advertise the issuance of a development permit was required, i.e. waiver of Section 12 (Calgary Board of Commissioners' *Review*). If a project was in a Direct Control District, project approval could be, in reality, directly exercised, e.g. Richmond.

Medicine Hat also had adopted a development control bylaw. Sections 10-13 of Bylaw 1539, concerning development permits, were waived for M.O. 295/71.

Under the Subdivision and Transfer Regulation, Section 17(2), an approving authority had power to require, as a condition of issuing a permit, a development agreement covering any municipal requirements for provision of public roadways and other public facilities. The later REDA projects, Ottewell, Baturyn and Lymburn, all in Edmonton, were the only projects for which council required development agreements.

Public Appeals to REDA Projects

Most of these projects involved higher density development than the adjacent land uses, resulting in a greater demand for services, especially schools and recreation areas. When proposed developments were brought to the attention of the adjacent landowners, many were against the projects (Londonderry, Abbottsfield). Their perceptions of such developments were that substandard housing would result causing property values to be lowered, and that increased density meant overloading of community services and schools.

However in eleven of the earlier projects, the need to advertise the issuance of a development permit and the subsequent right to apppeal of the objector was waived under the following legislation:

a) Planning Act, 1979, Section 128
Edmonton projects 1970-71
b) Calgary Development Control Bylaw - 7839 - Section 12 - Calgary projects 1979-71
c) Edmonton Zoning Bylaw - 2135. Section 8 - Londonderry (M.O. 241/70)
d) Medicine Hat Dev't. Control Bylaw - Sections 10 & 11 (M.O. 295/71)

Calgary applications state "This should be waived in view of the fact that the Development Appeal Board has no authority to alter a decision of City Council or the Provincial Government."

Land Use Designation

Experimental housing developments often represented new forms such as semi-detached housing and row housing, and usually at increased density. Waiver of existing zoning bylaws and development control instruments permitted these new types of land use to proceed. Attached housing was an innovative concept with respect to home ownership in Calgary (Calgary Board of Commissioners' *Review*). As mentioned previously, waivers for development details regarding the Calgary Development Control Bylaw, with the exception of Section 12, were not required. Control of development by waiving designated permissible uses was exercised in the following cases:

a) Edmonton Zoning Bylaw 2135,
Section 13 - Edmonton infill projects
Section 16 - B - Blue Quill
Section 21 - R - 1 Edmonton infill and Edmonton projects 1975-78
b) High River Dev't. Control Bylaw 983
Section 4, R-G, Resolution #21 - M.O. 941/78
c) Lethbridge Zoning Bylaw 2750
Sec. 5,6 - M.O. 385/70
d) Lethbridge Dev't. Control Bylaw
2887, #2 Appdx. A - M.O. 2008/78
e) Medicine Hat Dev't. Control Bylaw
1539, Resolution 6, M.O. 295.71
f) Taber Zoning Bylaw A-15 Sch. 1
(Zone R) M.O. 481/75

B. Subdivision Design

Regulations controlling subdivision design for residential use have been waived for over 50 per cent of the projects to accommodate changes mainly to site design and road layout. Few building design waivers have been applied for. The many projects have been clustered into groups according to chronological order, location and type for the purpose of evaluation. *(See Tables 1 to 3).*

Group 1. Calgary REDA's 1970-71 inc.
- (i) single family detached - West Dover, Ogden Tempo Village
- (ii) semi-detached - Dover Meadows, Ogden Multiplex
- (iii) row staggered - Penbrooke Meadows, Kingsway Estates
- (iv) row cluster - Richmond Road

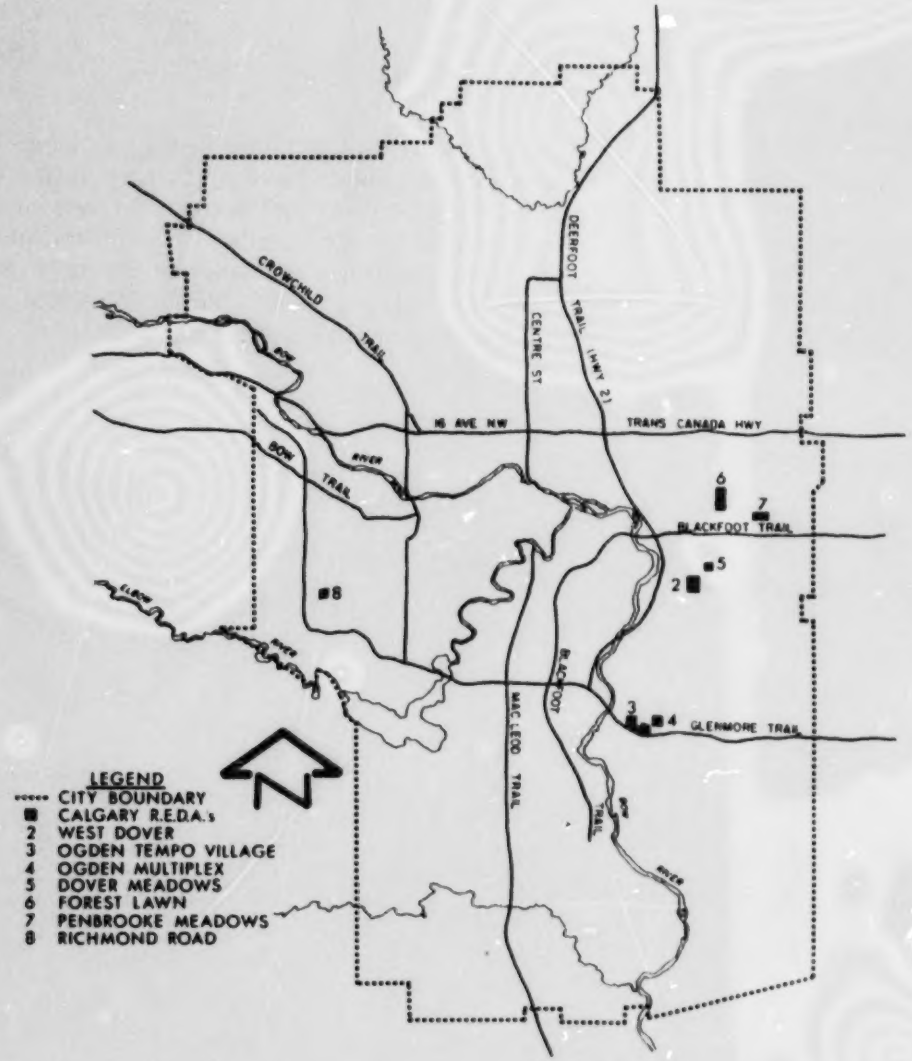
Group 2. Edmonton REDA's 1970
- (i) row cluster - Londonderry, Dickinsfield, Thorncliff, Abbottsfield
- (ii) row infill - Calder (3 projects), Montrose, Prince Charles

Group 3. Other centres REDA's 1971
- (i) duplex - Medicine Hat, Drumheller, Lethbridge, Redcliff.

Group 4. Edmonton, REDA's 1975-78
- (i) single family detached - Richfield, Ottewell Place, Lymburn, Baturyn, Blue Quill

Recent projects:
Lethbridge, High River

User surveys were carried out by the City of Calgary in 1975. Data from these surveys (Calgary Board of Commissioners' *Review*) has been used in the evaluation of Group 1. Since no user surveys exist for other groups, site evaluations were carried out by staff of the Inter-Agency Planning Branch. Project files, though incomplete, were another source of information.



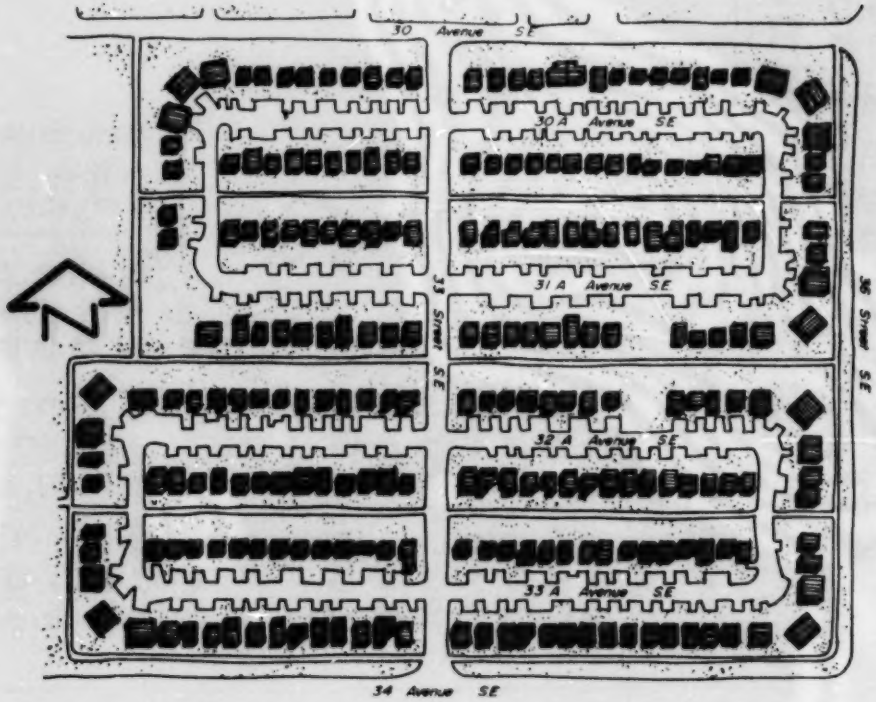
1. Location Map - Calgary

Group 1.
Calgary REDA's, 1970-71

All of the experimental residential developments in Calgary were constructed from 1970 to 1971. Waivers for subdivision design allowed for narrower road dimensions and smaller lots and yards. In the analyses the concern was with how these changes influence the use of space, i.e.:

1) the effect of narrower streets on access and circulation,
2) the orientation of the units to accommodate to smaller lots, and
3) the reduction of public and private space.

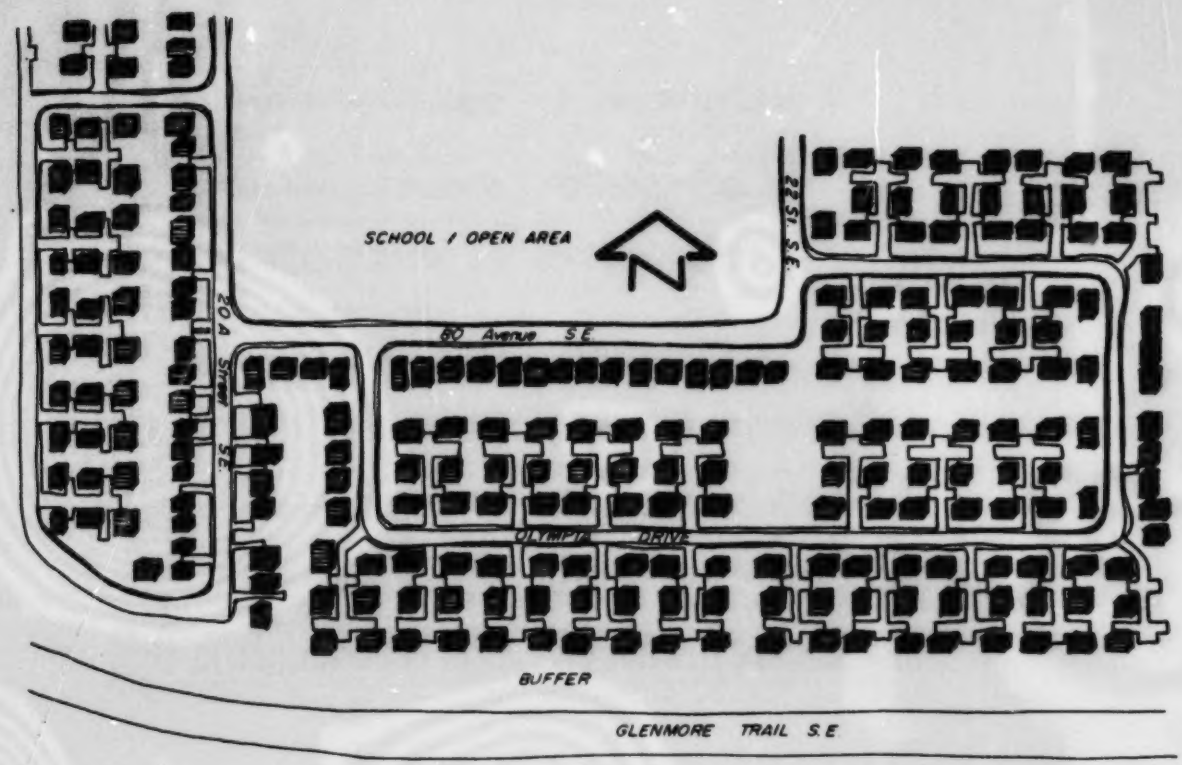
Information from user surveys in the Calgary Board of Commissioners' *Review* indicates residents were basically young families, the majority of heads of households under 35 years of age, with two or three children. Homes were purchased because they were economical. They are starter homes in the sense that many occupants anticipated moving to larger-sized homes, preferably single family dwellings. Most of these developments were built in the interface of suburban/urban areas.



2. West Dover

Type: Single Family Detached

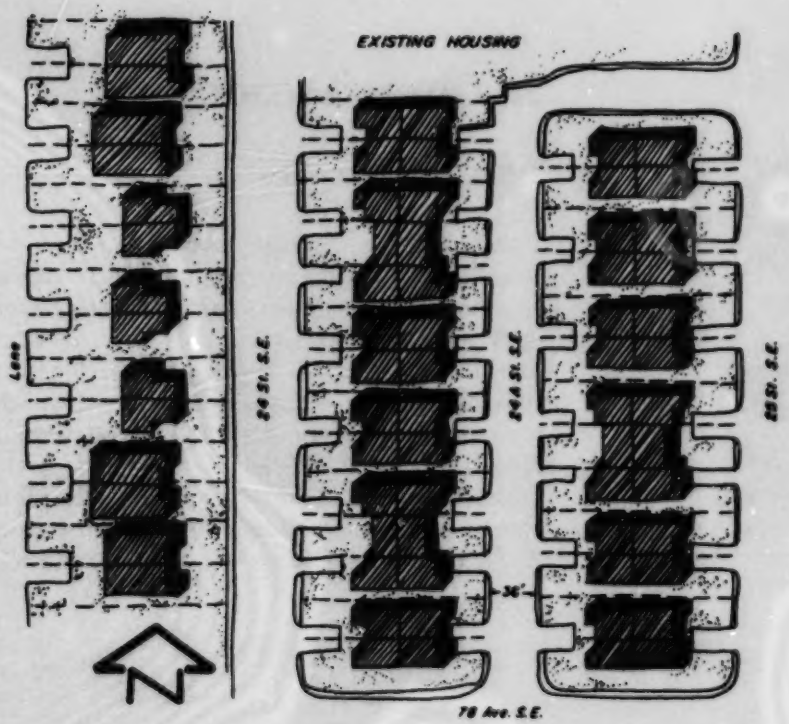
West Dover and Ogden Tempo Village are large single family developments with a density of 6 units per acre. The West Dover site conforms to a traditional linear pattern, but with the usual front street replaced with a long pedestrian walkway and servicing easement. The main entrance to the unit is from the service roadway and passed the private yard space. A broad grassed open space and lack of a street front extends the resident's visible yard space. There is a high level of use of yard space, and of resident satisfaction with children's play space. The pedestrian walkway is not well-utilized; however, there is a need for visual amenities to break up the linearity of space. Problems mentioned by users are lack of maintenance; disruptions from occupants of corner duplex rental units, and an abundance of dogs running loose.



3. Ogden Tempo Village

Type: Single Family Detached

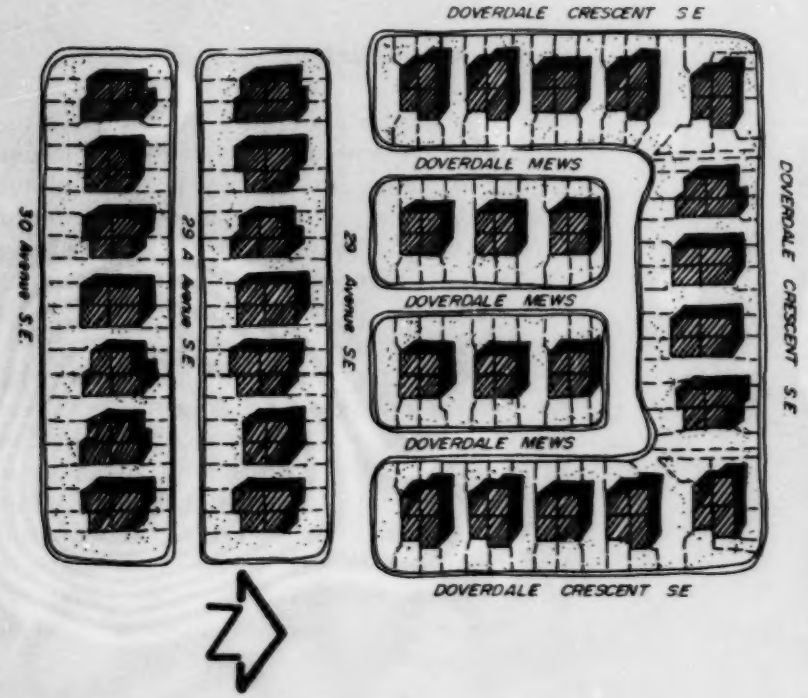
Ogden Tempo Village has an overall linear form with houses spaced around hammerheads sprouting off from the main artery. There was higher resident satisfaction with this neighborhood than that expressed in the other projects reviewed. One-third of the residents surveyed desired more yard space. Since the street became the playground, parents were concerned for their children's safety. Speeding traffic was the greatest problem, and noise from adjacent streets and units was a discomfort to some residents. Visitor parking was inadequate, and on-street parking has caused problems. A similar problem exists in West Dover.



4. Ogden Multiplex

Type: Semi-detached

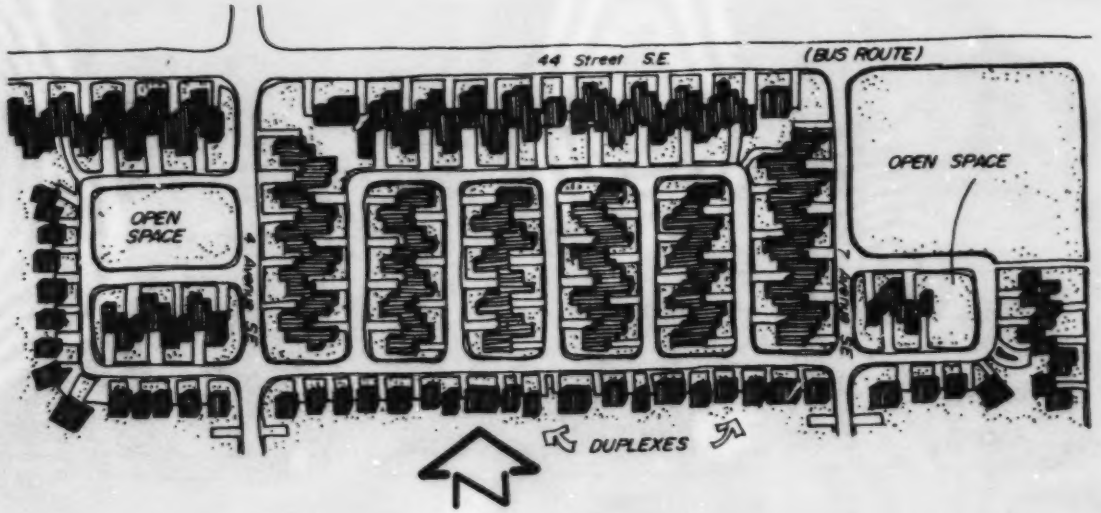
Ogden Multiplex and Dover Meadows are basically four-plex units with a density of 20-22 units per acre. Ogden Multiplex also contains one lane of duplexes and three sixplex units. Access to the Ogden units is through the private yard space from the parking area. One stall per unit was not adequate to accommodate resident and visitor parking. On-street parking has led to problems in access and circulation. Parents were concerned with the safety of their children, who used the street as a playground. Traffic problems and poor maintenance of private yard space are major concerns to residents. Quality control of exterior of units and the layout of the units has created resident satisfaction with the appearance of the project. Resident turnover was most often due to the need for space for the growing family, and for recreation facilities and schools for children. One third of those sampled desired backyard space.



5. Dover Meadows

Type: Semi-Detached

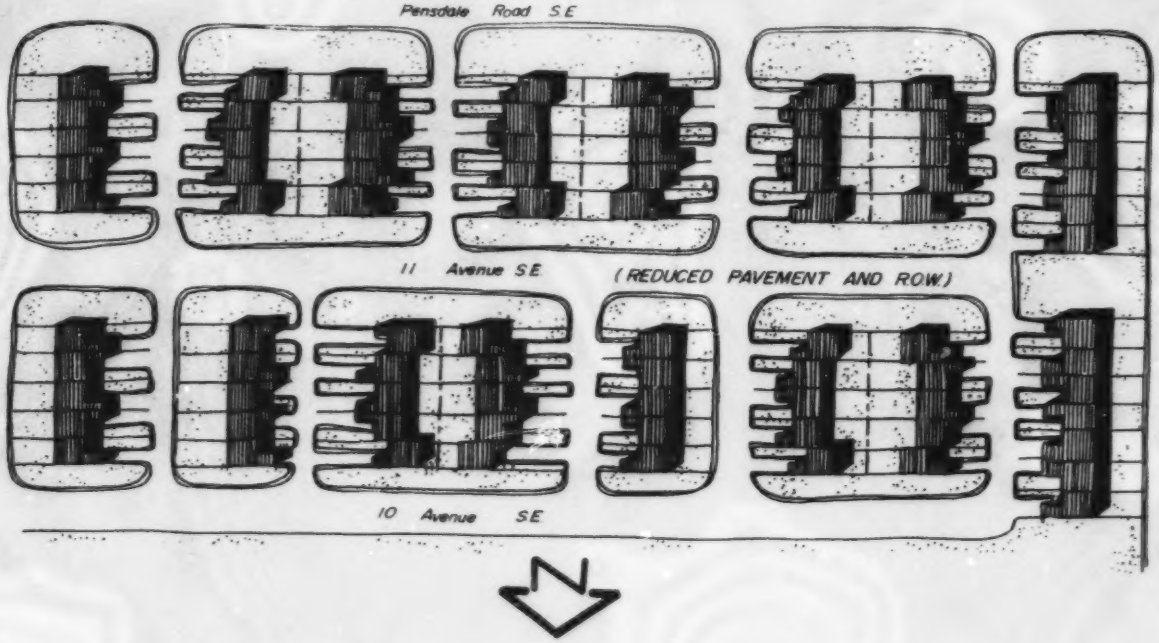
The entry and parking area for Dover Meadows fourplex is at the side of each unit. Yard space was used less than in other developments. Residents' concerns with adequate screening and lack of back yards indicate a desire for more privacy. Problems with speeding traffic, yard maintenance, dogs, and crowding were the main complaints. As in the other projects, the street was the neighborhood play area, which created concerns for children's safety. Residents often had to park on the street, causing traffic congestion. Parking space for visitors was also a problem.



6. Kingsway Estates, Forest Lawn

Type: Staggered Row Development

Forest Lawn, Penbrooke Meadows and Bowness are multi-family row developments staggered along the street grid. Density ranges from 8.5 units per acre in Forest Lawn to 14.9 per acre in Penbrooke Meadows and 21 per acre in Bowness. Forest Lawn also has a number of single family dwellings and duplex units fronting the west and north boundaries of the site. The highest level of resident satisfaction with the neighborhood appearance was found in the Forest Lawn development. The staggering of the units and the windowless side walls created visual privacy for yard space - located in the front of the units. Yards are used less than in other developments and are not considered large enough. Residents who constructed storage sheds had even less space. Again the problem of location of children's play space — the two major areas of open space are readily accessible only to adjacent units. Children play in the streets and parking areas. The deep set-back of the unit and the long paved driveway providing parking for 3 vehicles is adequate for users' needs.

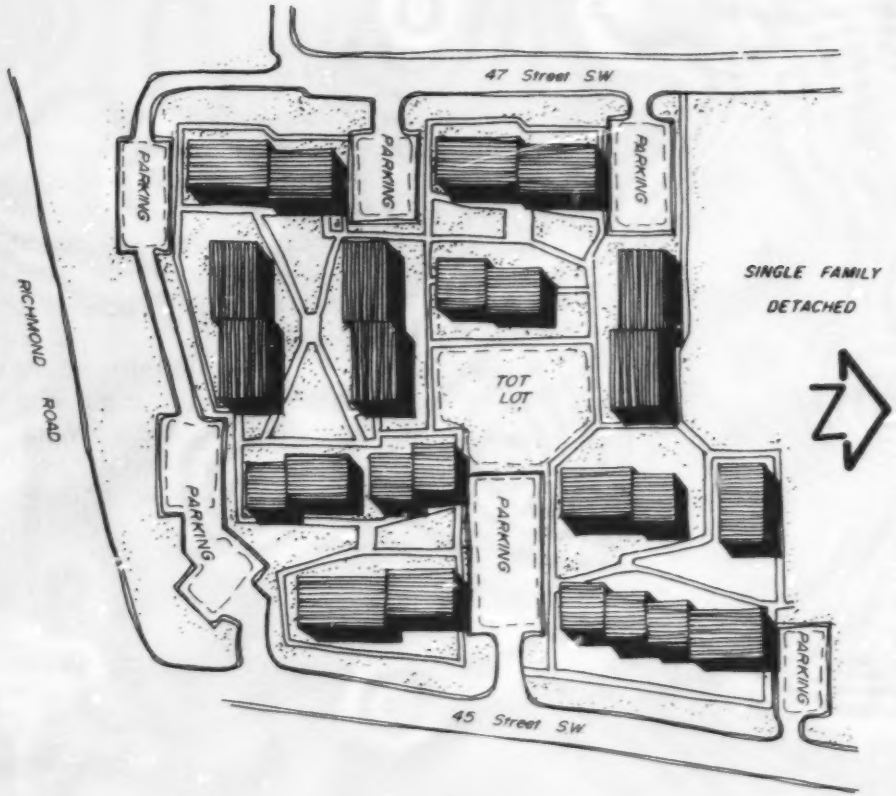


7. Penbrooke Meadows

Type: Staggered Row Development

In Penbrooke Meadows, lot sizes range from 1320 square feet to end unit lots of 1840 square feet for a typical R-3 layout. Each unit has a fenced backyard, accessible only through the unit and a front yard which has been reduced in size to accommodate one parking stall. Some residents have increased the parking area by eliminating the front yard.

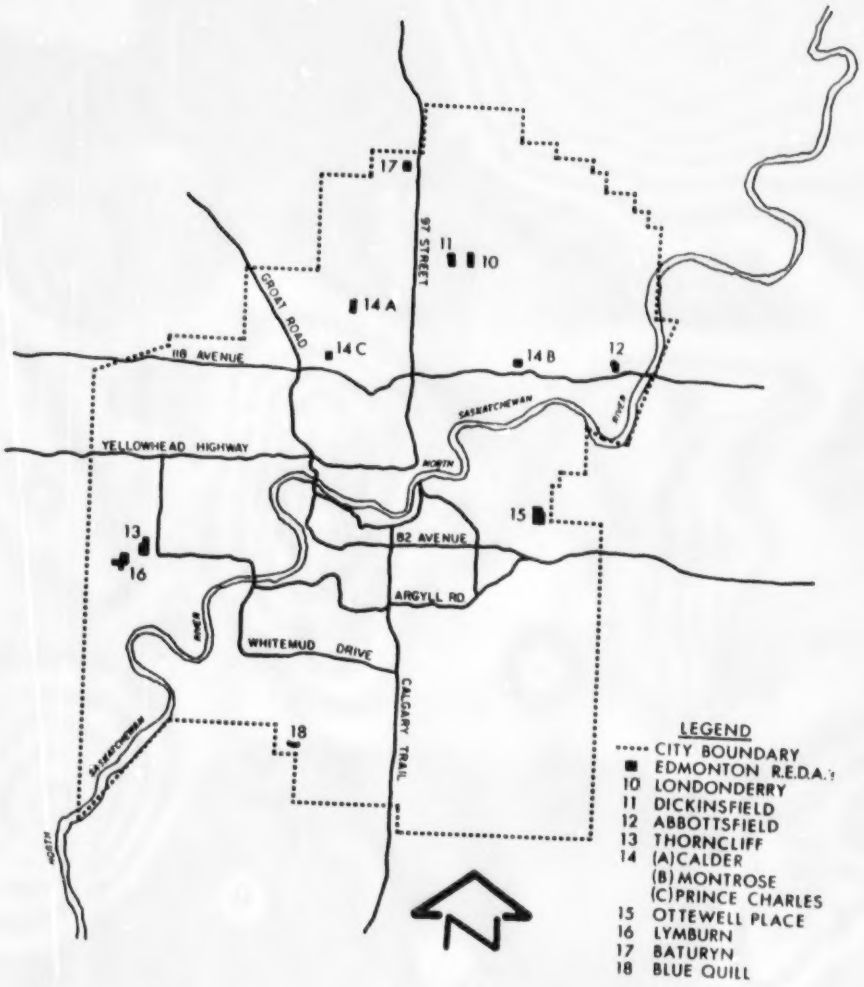
Of all the surveys, the highest level of dissatisfaction with the appearance of the neighborhood was expressed by Penbrooke Meadows residents. The feeling of crowding, problems in maintenance and the small unit size and lack of outdoor storage contribute to the level of dissatisfaction. Overhead wiring detracts from the appearance as does poor landscaping. The majority of residents surveyed were satisfied with the amount of yard space and used it extensively despite visual intrusion from adjacent units. As in other projects, the streets were used as a play space. On-street parking obstructed traffic flow and access to lots.



8. Richmond Road

Type: Row Cluster

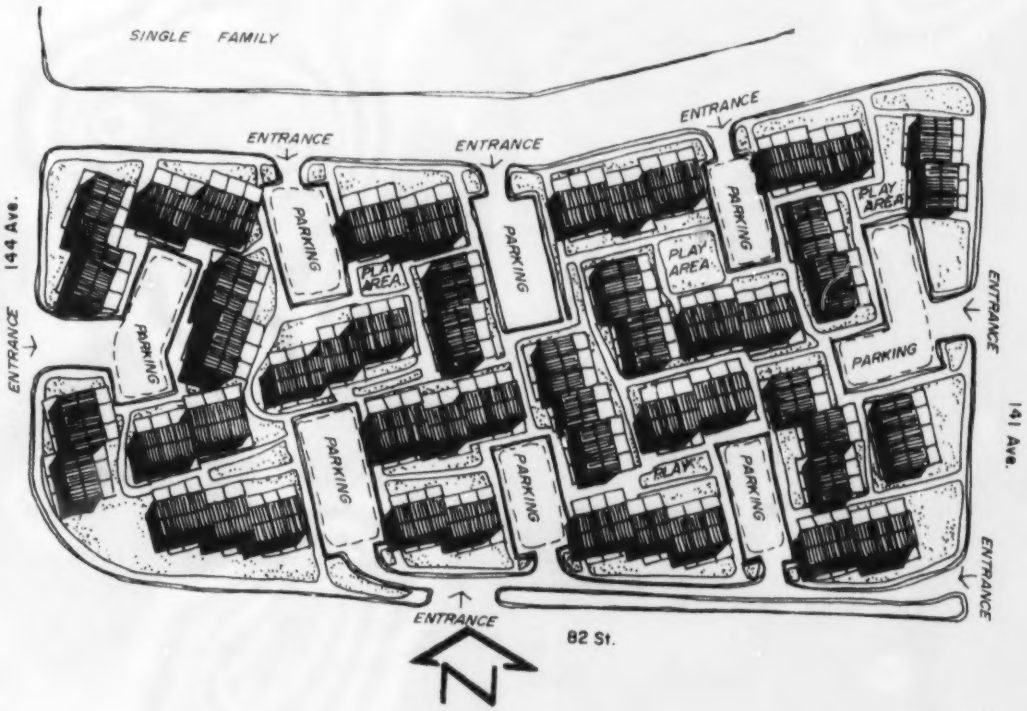
Richmond Road, a rental development, consists of 12 row buildings clustered to provide generously for open space between units. The two storey units have a front yard only, which is not fenced to provide privacy. Parking is combined into 6 lots at the sides of buildings. One stall is provided per unit. A large play lot is in the centre: walkways connect it to all buildings and the parking areas. Children also use the parking lots to play in. There is no visible control over these areas. Major barriers exist from Richmond Road on the South: as a major collector, it is a source of noise pollution.



9. Location Map - Edmonton

Group 2.
Edmonton REDA's 1970

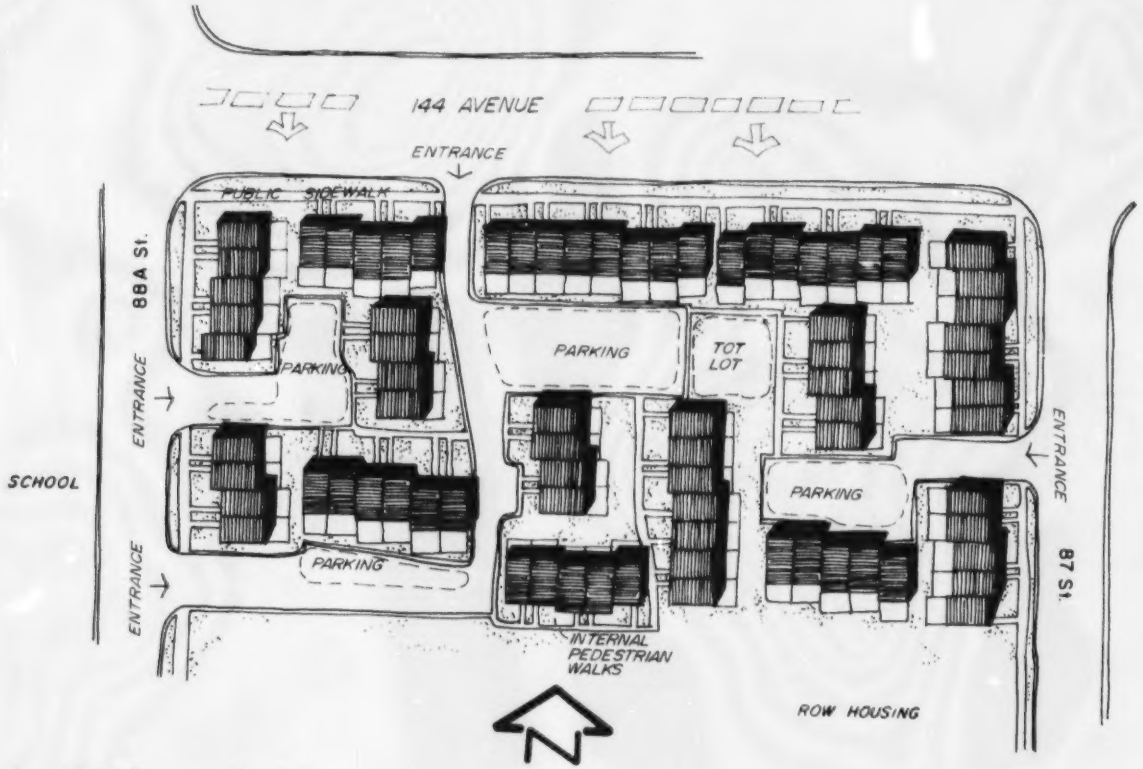
Londonderry, Dickinsfield, Abbottsfield and Thorncliff were the first experimental residential areas in Edmonton. They contain blocks of row housing clustered around the site to provide for open space and play areas. Parking lots can be accessed directly from the main streets. This approach is similar to the Richmond Road development in Calgary. Density ranges from a high of 25 units per acre in Londonderry to between 17 and 18 per acre for the other three projects. Waivers for these REDA's relate to the approval process; the waivers affecting subdivision design require a change of zoning to allow row dwellings in Abbottsfield and Thorncliff. No waivers are on file for Dickinsfield.



10. Londonderry

Type: Row Cluster

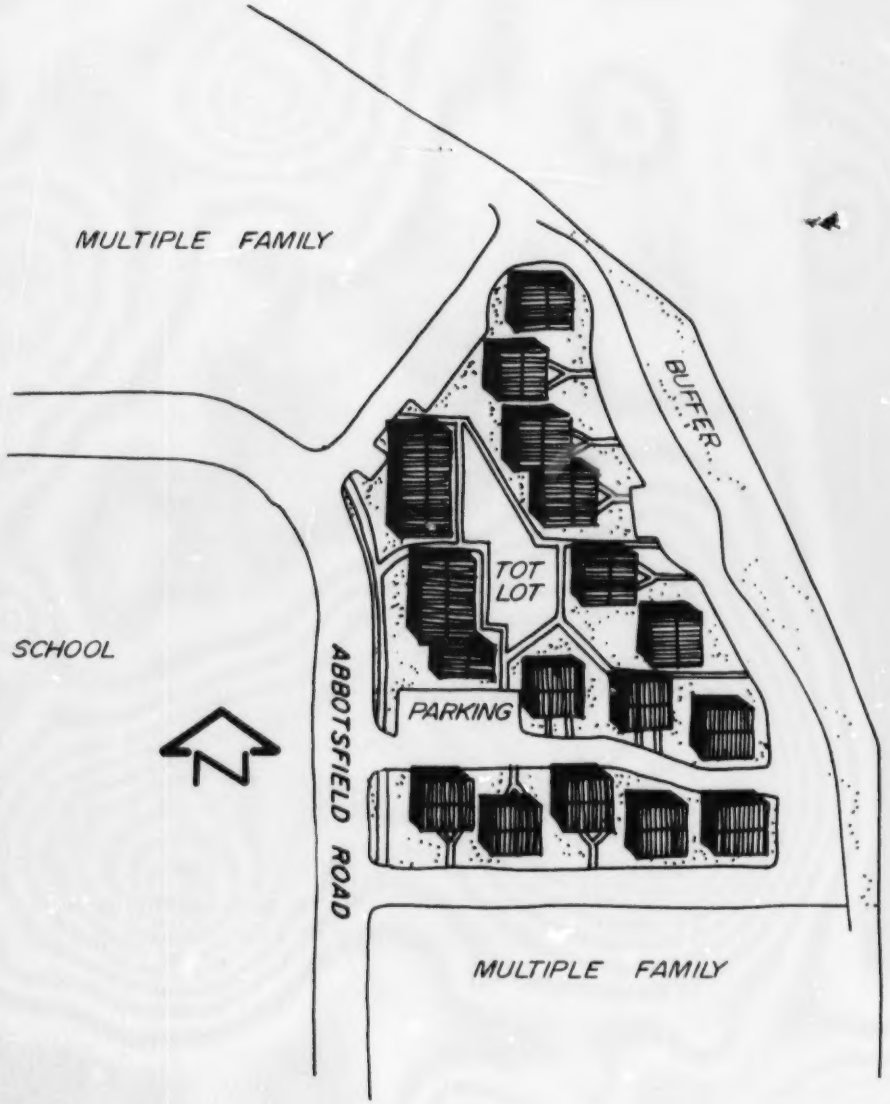
Londonderry units are back to back. The only yard space, at the front of each unit, is fenced to provide privacy. A walkway system connects the units to parking and play lots. The latter are landscaped and sufficiently equipped. Open space flanking the walkways and yards acts as a buffer between units and provides for recreational use. It is partially landscaped. Large areas of communal parking are not particularly attractive, but they are made less obstrusive by being recessed up to one meter below grade. There is only one stall per unit, forcing extra vehicles to be parked on the street. There is visual surveillance of the site from all units.



11. Dickensfield

Type: Row Cluster

The Dickinsfield file contained explicit site plans, unit plans and design rationale for a fourplex development. The site layout and row housing developed bear little relation to the file contents. There are four communal parking lots which provide for one stall per unit. Residents and visitors must park extra vehicles in the street. The school yards to the west provide much of the open recreation space in the area, in addition to an on-site central play lot. The development is joined to an Edmonton Housing Authority rental project to the south by a main walkway which extends through the Dickinsfield site. Each unit has a semi-private front yard and a well-screened private backyard. Problems in maintenance of both the units and parking areas were evident.

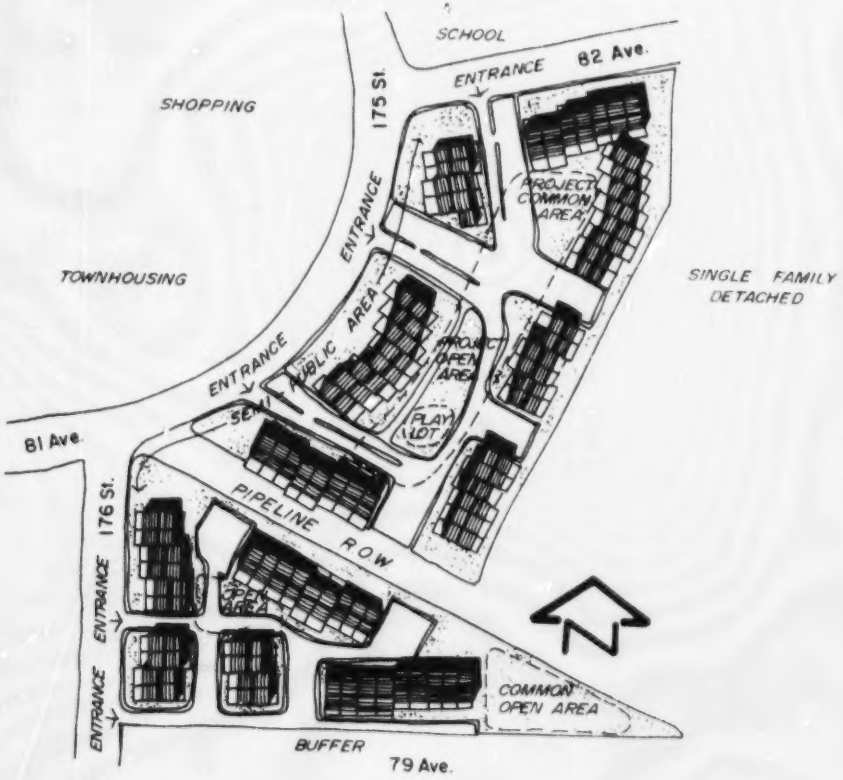


12. Abbottsfield

Type: Row Cluster

The Abbottsfield REDA is an Edmonton Housing Authority rental project. The original project application was for all three parcels of land on Abbottsfield Road, but only one parcel was developed under REDA legislation. The project contains row blocks of four units back-to-back and clustered to provide a central play area. Each unit has a front yard: many are not fenced to provide private space. A perimeter road provides circulation to all units save those on the south-east boundary. Parking pads are located to the side of each row house on the loop. Parking lots are provided for visitors and for residents of the Abbottsfield Road row units. One stall per unit and recreational vehicle storage has been alotted.

The play area is well-equipped and its land forms create a visual relief. There is good visual control of the outdoor areas. The open space is adequate but requires some amenities, i.e. landscaping. The site has two negative influences; the CNR on the north-east, which produces noise and vibration, and the industrial row to the South (118 Ave.), which occasionally emits foul air.

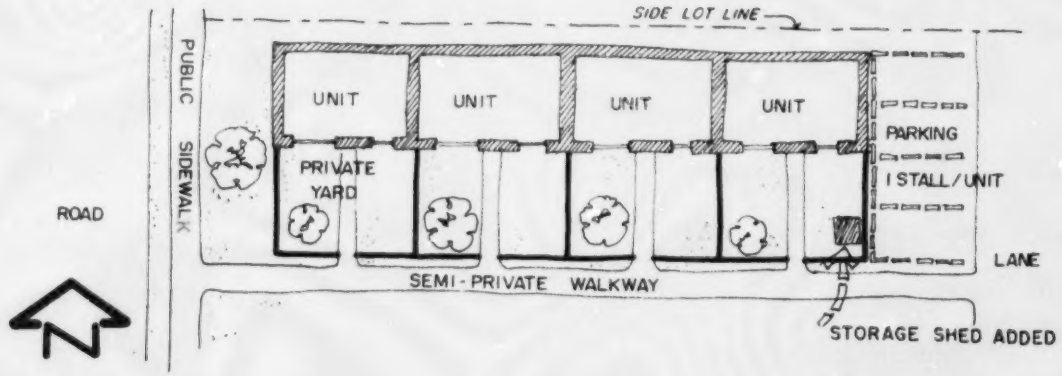


13. Thorncliff

Type: Row Cluster

Like Abbottsfield, Thorncliff REDA was built for city rental accommodation. The project consists of 12 row buildings that border the site boundaries, creating open space areas and a play lot. A pipeline right-of-way divides the north from the south wedge-shaped parcel. The two storey units are back to back, and each has a front yard which is fenced on the side only. Five entrances from the main streets permit easy access to the parking areas. One lot is reserved for visitors. The effect of the circulation through the development is to divide the site into discrete blocks.

The project has a great deal of open space which provides a buffer for the buildings, but it does not function as a landscaped activity setting nor as a visual amenity. The small play area is minimally equipped. The grounds north of the site provide recreational open space when school use permits. Maintenance of yards, building facades and open areas is inadequate.



14. Prince Charles, Montrose, Calder

Type: Row Infill

These five projects are identical row buildings in older neighborhoods of the city: Calder (3 projects), Prince Charles and Montrose. Waivers were required to relax existing bylaws to allow for row housing at a density (19 to 25 units per acre) greater than that existing in the area. Minimum requirements for yard dimensions and parking stall dimensions were also waived. The fronts and backs of the units face the side lot lines. Each unit has a front yard enclosed by a 1.5 m fence and a gate. A walkway from the public sidewalk to the back lane provides access to all the units. A 1.5 m set back behind the units, parallel to the side lot line, provides for no use other than maintenance. Parking and refuse collection are adjacent to the end lane. The parking space offers only one stall per unit. Additional parking must be on the street.

The Prince Charles development is to the west of the Municipal Airport, while the three Calder projects are to the north. The CNR yard runs north of the airport. These uses generate noise, dust and vibration, although their effects are less pronounced in Calder. The Montrose neighborhood is mostly residential in character and is not influenced by conflicts that are present in Prince Charles and Calder. There are school yards within a block or two of of Montrose and Calder, providing some outdoor recreational space. All development areas are laid out on a grid system. Montrose differs from the other projects in its orientation: the fronts of these units face the street.

One of the Calder developments is a double row, giving rise to problems of visual privacy because units overlook one another. Most residents have installed storage sheds inside their yards, reducing the amount of private space available. There is little open space for children to play: children playing in the street or lane cannot be seen from the units.

Group 3.
Other REDA's, 1970-71

REDA projects were constructed in regional centres other than Calgary and Edmonton between 1970 and 1971. Lethbridge M.O. 519/71, Medicine Hat M.O. 270/71, Redcliffe M.O. 275/71 and Drumheller M.O. 292/71 were all generally conventional duplex units; density ranged from 12.5 units per acre (Drumheller) to 13.9 units per acre (Medicine Hat). Lethbridge M.O. 383/70 phase one consisted of 11 units of row housing on Forestery Avenue; density was 17.6 units per acre. The duplex developments have front, side and rear yards, with parking at the rear.

Waivers were required for the Drumheller and Lethbridge developments to allow lot sizes to be slightly reduced. Medicine Hat M.O. 270/71 required a relaxation of the Land Use Classification Bylaw to allow increased density and housing type. Little other information has been recorded on these projects.

Group 4.
Edmonton, 1975-78

This group includes the REDA projects of Richfield, Ottewell Place, Lymburn, Baturyn, and the more recent IRDA of Blue Quill. They are located in agriculture/urban fringe areas where land prices are usually lower. In most projects the standard grid system has been substituted for a more free flowing plan reflecting unique lot design and access. The use of cul-de-sacs is common. Generally provision was made for two parking spaces at each unit. Lymburn, Baturyn and Blue Quill were in various stages of completion while this study was being carried out. Information on these projects and the innovations employed has been taken from the project files, which are well-detailed.

Waivers

All projects utilized the zero lot line concept. Subdivision and Transfer Regulation section 35 was waived to allow for reduced lot size. Section 34 was waived for Lymburn and Baturyn to allow for non-conventional parcel layout. Other sections of the Regulation which dealt with site access, dimensions of roadways and lane connections and cutoffs have been selectively waived.

Richfield, Ottewell and Lymburn projects have waivers of Edmonton Zoning Bylaw Sections 12 (1, 7, 9, 10, 13) for type of subdivision, fences, double fronting units, accessory buildings and parking areas. Waiver of regulations for R-1 Residential District and for Agriculture General Urban District (Blue Quill) provided for increased density and relaxation of required site area, site coverage and yard dimensions for all projects.

The following service modifications were carried out in these projects, resulting in significant savings:

- elimination of roof leader hook-up to storm sewers
- use of "Y'd" service connectors
- use of PVC and polyethylene pipe

Other modifications carried out in the Baturyn project included use of a common trench for water and sewer, and concrete gutter swale crossings.

The C.M.H.C. publication "Site Planning for Housing on Small Lots in Comprehensively Planned Developments" provided standards for set backs for rear yard depths (17'-6" to 25') and front yard depths (15'), utilized in Lymburn, Baturyn and Blue Quill projects. Carports were permitted to coincide with the front property line; enclosed garages had a 20' setback for driveway clearance. A 2' minimum building easement and a 4' minimum maintenance easement were required except in Baturyn where an 8' minimum maintenance easement was utilized.

15. Ottewell Place

Type: Mixed Development

This development of 157 units built by the City of Edmonton infills the Ottewell neighborhood on the old Sky Vue Drive-in site. Each unit has a front, side and backyard. Fences enclose the back and side yards, providing outdoor privacy for residents. In addition to parking for two vehicles, on-street parking for extra vehicles and for visitors' use is ample. The largest lots (facing 58 St.) are conventionally subdivided to provide congruence with the existing neighborhood. The irregularity of lot lines sets up a staggered facade of units and yards. The 50 St. arterial bounding the site is bermed, fenced and planted to screen noise and vibration and to block access.

Pavement widths have been reduced on both the loop road through the site and on the cul-de-sacs. A walkway links isolated units on south and northeast boundary with interior circulation on the two play areas. The play lots are well screened from traffic but relatively inaccessible from the west and south peripheral units. Outdoor storage shed plans were available to owners: those built conform to the style of the units. This development provides the degree of privacy, security and functionality of a well-designed conventional subdivision. However, adequate landscaping would improve the visual quality.

North Sector 16. Lymburn

Type: Single Family Detached

The Lymburn REDA is part of a larger development which straddles 76 Avenue in West Jasper Place. Ministerial Order 340/77 designating waivers for Lymburn also required other conditions: a development agreement and owner responsibility for plans, walkways, access, and pavements; and monitoring of sales. Major savings in costs result from smaller lot sizes (20-25 per cent reduction) and for service modifications. No cost savings were realized in building construction.

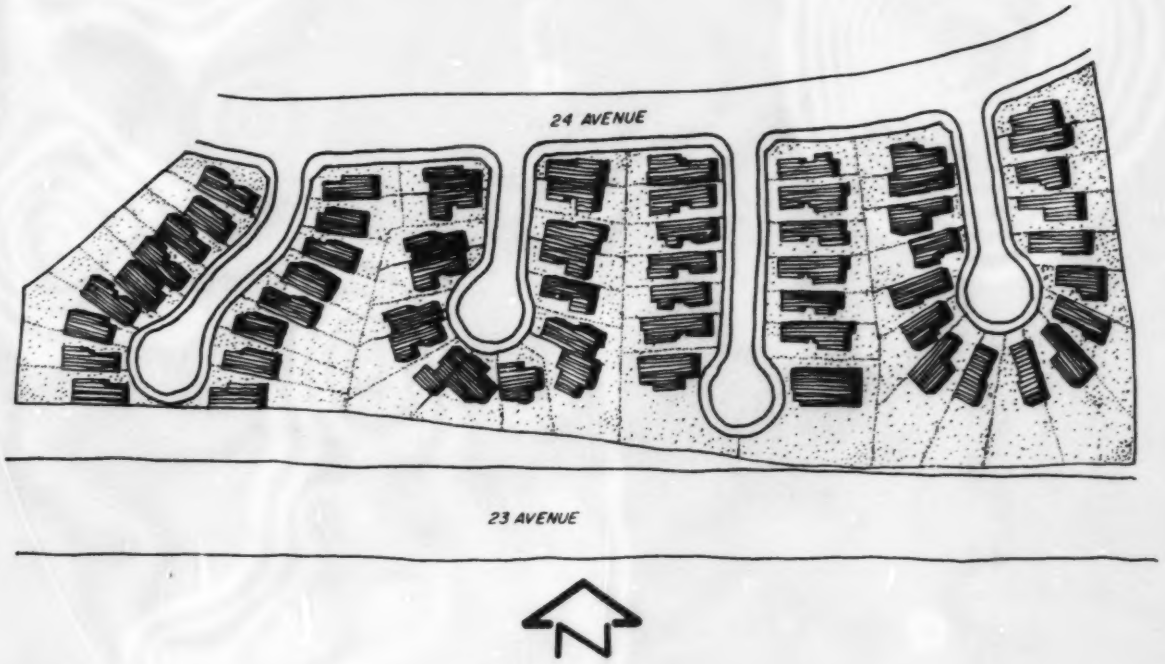
The total development is co-ordinated architecturally. Each lot is landscaped and fenced. No play areas have been included. There is a district school east of 178 St. which generates a large number of children and requires attention to landscape elements such as screen fencing. Berms on 79 Avenue and 178 St. provide a noise barrier to traffic flow.

17. Baturyn

Type: Mixed Development

The Baturyn neighborhood development provides a variety of housing in terms of size, physical form and ownership style that encourages a social mix. Housing is situated around cul-de-sacs and an internal loop road. The small lot housing utilizing the zero lot line concept forms the bulk of the development, and is based on an average lot size of 4,000 square feet. The multiple housing units (town-houses) are built on a split level, extending through 3 storeys. Units have fully screened yards. Duplex housing is laid out to the north-west adjacent to the school and park site. Conventional single family housing is located on the perimeter of the site, where it is compatible with adjacent development.

A small playground initially included in the centre of the project was opposed by the Municipal Planning Commission and was deleted. Siting standards are similar to those carried out in Lymburn, using C.M.H.C. guidelines for small lot design. The minimum sideyard setback of 10' between units facilitates access to the rear yard.



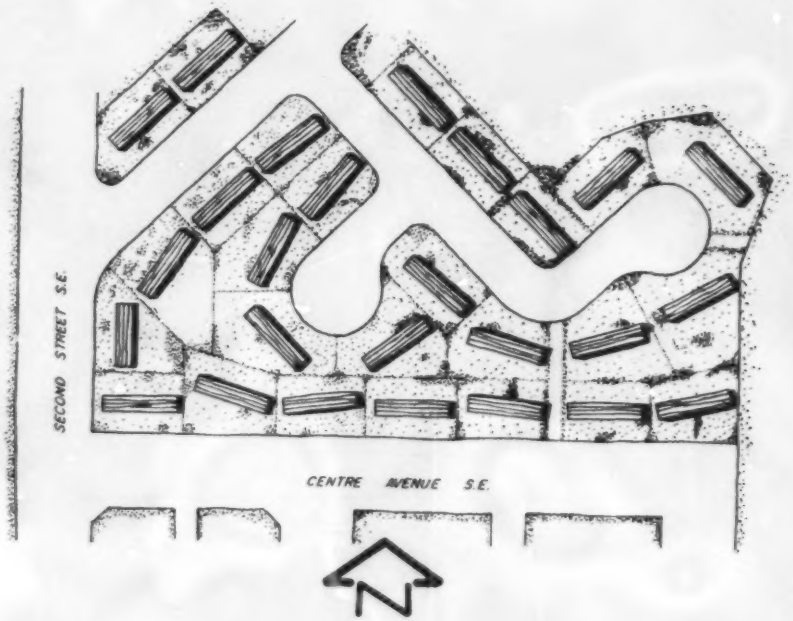
18. Blue Quill

Type: Mixed Development

One of only three projects given Ministerial approval since the 1977 Act has been in place, Kaskitayo in the Blue Quill neighborhood is a complex of 46 single family and 18 semi-detached dwellings. The area was designated for innovative housing purposes under the Blue Quill Neighborhood Outline Plan. A school and park site are located north of the 23 Ave. collector. A noise buffer system was required for lots adjacent to 23 Ave. Design components included berming, screen fencing, using blank walls of units as sound barriers (south face) and constructing non-habitable components on exterior walls.

Yard space is enclosed by a 3' high fence. Because of the increased unit areas, yards are small. Cul-de-sacs are reduced to 26', with a turning radius of 35'. No sidewalks were deemed necessary due to the short splash pads provided to eliminate the need for storm services.

Four different builders were involved; each was responsible for the units around one cul-de-sac. The average lot size is 4,000 square feet. House sizes range from the first built units averaging 1,450 square feet (Hill Homes) to 2,000 square feet and 2,500 square foot luxury residences presently being completed. Selling prices range from approximately $110,000 on smaller sizes to an average of $155,000 for the larger units.



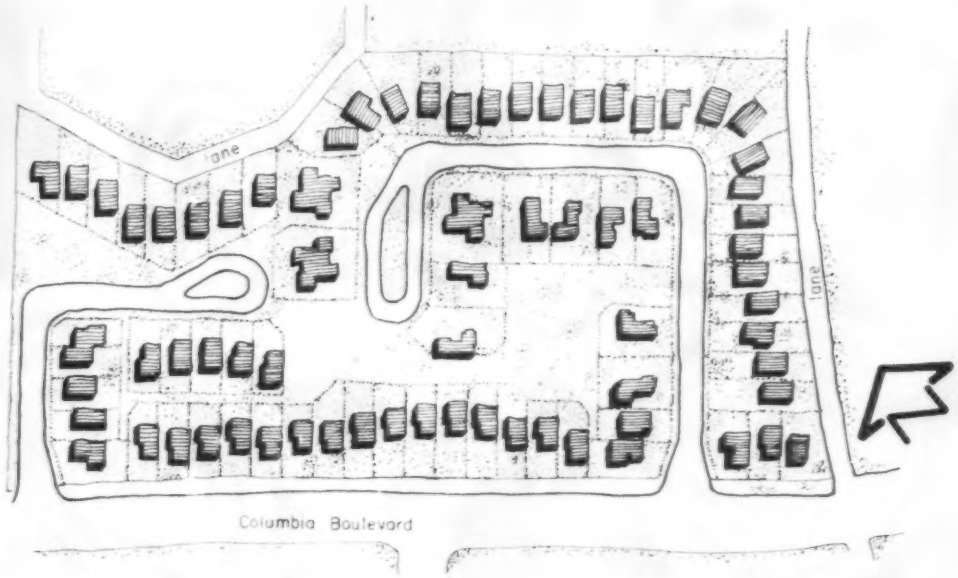
Recent IRDA's, 1978

Only three projects have been designated as innovative residential projects under the 1977 Planning Act. The first of these, Kaskitayo in Blue Quill neighborhood, Edmonton, has already been described. High River M.O. 940/78, a mobile home subdivision and Lethbridge M.O. 2007/78, a single family complex were the last projects to receive Ministerial approval. There have been no subsequent applications.

19. High River

Type: Mobile Home Development

The High River mobile home units are arranged end-to-end along cul-de-sacs. The units were required to be above the 1:100-yr. floodline for Highwood River. The manufacturer/developer was involved in setting the homes on the site and marketing them. Lot landscaping (sodding and tree planting) and fencing were included. Relaxation of Development Control Bylaw 983 Section 21 regarding front yard parking, and Land Use Rules for a Residential-General District was granted. Provision was made for off-street parking (30' x 10'). The addition of garages or carports could be negotiated with the developer.



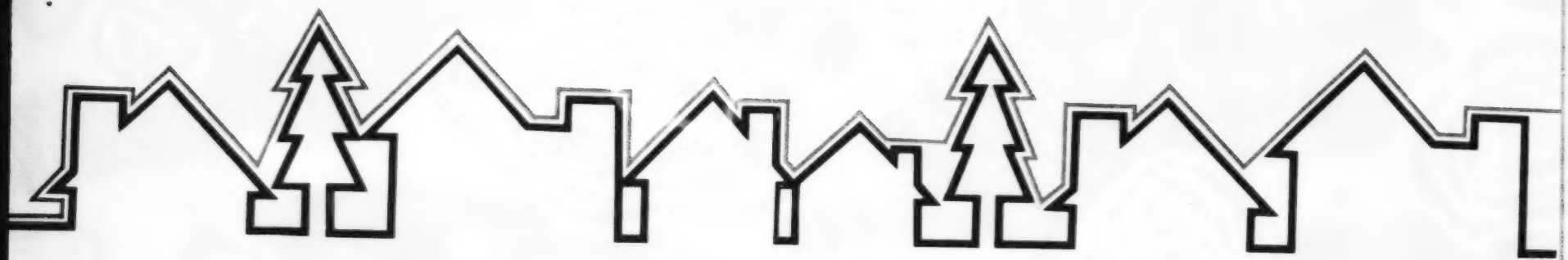
20. Lethbridge

Type: Mixed Development

Lethbridge M.O. 2007/78 contains 89 units: two-thirds of these are single family detached, the rest are duplex and fourplex. Waivers applied for allow fourplex units, and reduction in lot sizes, lot coverage, yard areas and fence heights. Gross density is 9.5 units per acre. Development conditions required 80 per cent of the units to quality for the Alberta Housing and Public Works Municipal Incentive Grant ($1,000 per unit). Selling price of 65 per cent of the units was established under the Assisted Home Ownership Programs - $43,500 in the Lethbridge area.

Development is based on the zero lot line concept and allows a minimum separation of 10' between units. Private gardens are screened by 4' fences. Unit setbacks are from 15' to 25', and combined with a variety of housing types, provide interest to the streetscape. Lots accommodate two parking spaces. The site slopes gradually from the north boundary to the south and west. Natural surface drainage is directed to catch basins. A sidewalk system provides access to the central park reserve.

3.



CONCLUSIONS

Summary of Innovative Features

The REDA/IRDA legislation has contributed minimally to the goal of encouraging low cost housing through bringing about cost savings in the following areas: the approval process, land development and spatial organization. Building design is another area in which innovations would result in cost savings. However, no innovative measures have been used to reduce costs for building construction with the exception of waivers of the Calgary Building Code relaxing requirements for fire retardation (West Dover and Richmond Road).

1. Approval Process Waivers

- waiver of the formal approval process
- waiver of notification of issuance of development permit and of appeals by adjacent landowners
- waiver of existing zoning and land use classifications to allow new building forms, and at increased density
- waiver of a development permit

2. Land Development Innovations

- zero lot line concept
- small lots (increased density)
- reduced yards
- reduction in length of piping
- reduced road dimensions
- use of dished roadways
- elimination of curbs, gutters and sidewalks
- "Y'd" service connections
- common trench for water, sewage
- deletion of storm leaders from units

3. Spatial Organization

- building form (semi-attached, multiple units)
- site configuration, i.e. grid, sinuous, peripheral
- integration of public/private spaces
- internal circulation systems
- play areas
- elimination of back lanes
- waiver of regulations (setback, fences, lot coverage, parking)

The Approval Process

In bringing approval authorities such as C.M.H.C., the municipal council and A.H.C. together at the outset for consideration for individual projects, there is potential for providing improvements in the planning and design phases, and avoiding duplication and loss of time. A shortening of the processing time period represents a savings in cost.

By implementing development control in the form of a Direct Control District, a council has the appropriate mechanism to exercise local control over projects without requiring extensive waivers of its own bylaws for I.R.D.A. projects.

The right to appeal of adjacent landowners has been waived in many projects. This has become a problem where a project is infilling existing neighborhoods, and a level of public acceptance is necessary. Developers do not have to make trade-offs for public support, which they sometimes must do in the standard approval process.

Land Development and Spatial Organization

Reduction of lot sizes

It was mainly by reducing the lot size — up to 25 per cent — that savings have been made. This resulted in an increased density requiring special design considerations for the housing form and for functional areas such as circulation and privacy. Layout of the site and unit orientation were particularly important aspects of ensuring these design concerns could be met. As density was increased, the provision of privately screened spaces and noise attenuation features became essential, as well as overall architectural control over the visual design. Many of the projects did not provide adequately for these needs, and residents experienced problems in crowdedness, visual disparity and noise.

Traffic Design

Basic savings have been made by reducing road dimensions. Eliminating curbs, gutters and sidewalks where feasible and utilizing a dished road design have also contributed to cost savings. One of the major problems most residents experienced was the lack of parking space, resulting in on-street parking and the attendant circulation problems. User surveys in the Calgary Board of Commissioners *Review* indicate half of the families in a development have two cars, and require additional parking for visitors and recreation vehicles.

Play Areas

The greatest number of residents of these housing developments, especially the projects prior to 1976, were young families, who as both income level and need for more space increase, move to larger detached housing. One of the most important design requirements for young families is the provision of play areas for children. A safe, well-equipped contoured play lot is both visually and functionally an asset, and many developments had such areas incorporated into their plans. Some were located in places not easily accessible to residents. In most developments children tended to play in the streets, creating a parental concern for their safety. There is a necessity to include semi-private areas close to the units where children can congregate and be seen by their parents, e.g. West Dover.

Visual Amenities

Landscaping of public and semi-public areas seldom provided visual amenities for the residents, suggesting that more emphasis should be given to this element as it forms an important part of user satisfaction with site appearance. Landscaping can be part of the overall architectural control which is exercised over other design features. Outdoor storage should also be designed as an integral part of a unit: there was inadequate provision for it in most developments. Many of the problems that have been highlighted are not the result of a relaxation of regulations, rather they are attributed to inadequate design.

Location

Although most experimental housing developments were free of major land use conflicts, several projects failed to deal with air and noise pollution, and the safety hazards of railways and vehicular arteries. The more recent Edmonton projects have been required to meet more rigorous standards e.g. Blue Quill.

From the point of view of transportation costs it is unfortunate that so many of these projects are distant from the city center and from service areas. Lymburn, Baturyn and Blue Quill are 8 to 10 km from downtown Edmonton. There is a bus line to each of these neighborhoods, but service is limited.

Cost Analysis

There was a problem in developing cost analysis data on projects: very little information on this has been filed. Selling prices are available in the *Review of Experimental Housing Projects*, (a report written for the Calgary Board of Commissioners) but only on the six projects reviewed (See Table 1). Most of the Calgary residents surveyed indicated that the price of the unit was the over-riding factor in their decision to move in.

In Edmonton, from 1975 on, developers were required to enter into a development agreement. One of the stipulations of the agreement was that a percentage of homes sell under Alberta Home Mortgage Corporation and AHC Starter Home Ownership Program prices. For the 1977 projects of Lymburn and Baturyn, the City of Edmonton proposed monitoring sales on a regular basis until 75% of the units were sold. Assurance that innovative housing developments were available at lower cost than conventional developments was demanded in view of what occurred in marketing the Ottewell Place project: the actual selling price of the units as advertised by the builders exceeded substantially the anticipated selling prices as outlined in the orginal submission. Municipal Affairs emphasized that unless innovative projects were able to demonstrate a substantial reduction in price when compared with conventional housing and unless the savings were to be passed on to the purchaser, there was little justification for waiving of applicable subdivision and zoning regulations under Section 155 of The Planning Act (from DMA file records, May 1977).

Effectiveness of Legislation

No project applications have been received since 1978 in spite of Alberta Government incentives establishing programs for residential development, though not specifically for IRDA's. It appears that the legislation is not being utilized for several reasons:

1. It is questionable whether waiving existing legislation actually leads to lower cost housing in the market. The single family detached projects in Edmonton have undergone an escalation in price, resulting in the City monitoring sales of the units. An increase in building size now compensates for cost savings through site development innovations, eliminating any overall reduction in price (e.g. Blue Quill).
2. All the innovative measures used are, in reality, cost savings. Many of these innovations, such as smaller lot designs, zero lot line development, and increased height and building coverage tolerances, have been included in bylaws. That is, they have been operationalized within the industry. There is no need any longer to apply for waivers in these areas.
3. The Federal funding which gave birth to the experimental housing legislation has been discontinued. Although AHC programs have been established to provide incentives for the development of lower cost housing, no further financing has been designated directly for IRDA developments.

It is apparent that there is a need to examine the legislative goals to see whether they are still valid, and what changes may be required to fulfill the intention of the legislation.

An argument for maintaining the legislation might be on the following:

- there is a need for housing for lower income groups,
- it is necessary to designate areas for experimental development projects so the planning, subdivision and development processes can be integrated,
- waivers are important to avoid some of the detailed regulations which may hold a project back unnecessarily.

There are also several options to consider in creating more effective utilization of this legislation to produce lower income housing, as follows:

1. Experimental housing innovations have been made mainly in the areas of process approval and site development. Future innovations leading to cost savings must come about mainly through innovations in spatial organization and building design. The following areas have not been adequately emphasized:
   a. innovative unit design
   b. orientation to light and ventilation
   c. joint use of space and shared facilities

d. increased efficiency in building methods and use of materials
e. use of landscaping for wind breaks and heat loss and gain
f. cost savings in maintenance and operations
g. use of energy conservation systems,
   e.g. - joint heating systems
   - passive solar systems
   - recycling grey water

2. The IRDA legislation is concerned solely with residential developments. It is suggested that a broader perspective incorporating commercial, recreational and institutional services is required to create cohesively planned and more energy efficient systems — perhaps "the village" concept of mixed uses.
3. Direct program support for IRDA legislation in the form of an incentives program may be necessary to encourage the development of low cost experimental housing.

It is apparent that the REDA/IRDA legislation has contributed only minimally to the goal of "innovative, low cost" housing, and it has done this through essentially waiving those Provincial and local procedures designed to protect the quality of the community environment.

It can be questioned whether reducing the role of planning and local oversight could be expected to accomplish very much, in the absence of strong financial and other incentives to develop housing of an innovative and low cost nature. Traditionally, these qualities have been achieved through design and materials innovations rather than through relaxing local layout standards.

In the absence then, of an innovative approach to building and materials design, the attempt to use planning to bring about innovation and lower costs must be deemed largely a failure. Certainly, the idea has merit when the approach used is a comprehensive one, dealing with building design, use of materials, layout standards, location and the financial and institutional elements required to produce an innovative product, as well as those land use planning and development aspects by which the development is integrated into the fabric of the surrounding community.

Little appears to have been achieved by dealing predominantly with only the land use planning aspects of residential development. The IRDA developments of the future should strive for an integrated and comprehensive approach and low cost, through utilizing the best of what is currently available in design concepts and materials, supplemented by sensitive land use planning and reasonable local controls.

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